

AMENDMENTS TO THE DRAWINGS

The attached eight sheets of drawings includes changes to FIG(S) 2B, 3B, 4B, 5B, 6A, 7, 8, and 9. These sheets, which include FIG(S) 2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B, 6A, 6B, 7, 8 and 9, replace the original sheets that also included FIG(S) 2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B, 6A, 6B, 7, 8 and 9.

The cross-section hatching for the structure identified by reference numeral 30 has been changed to indicate that this structure is a glass semiconductor material in accordance with Applicants' specification at page 6, line 8..

The cross-section hatching for the structure identified by reference numeral 50 has been changed to indicate that this structure is a polymer in accordance with Applicants' specification at page 6, line 24.

Reference line 14 in FIG. 2B has been extended to a bottom surface of lead frame 10 in accordance with Applicants' specification at page 10, line 13.

Reference numeral 14 in FIG. 5B has been deleted where directed to a top surface of lead frame 10' in accordance with Applicants' specification at page 6, line 13.

It is believed that these changes make the drawings conform better to Applicants' specification and no new matter has been added. Entry of the replacement drawings is respectfully solicited.

REMARKS

In the present Office Action, claims 1-18 were examined. Claims 1, 2, 4, 6-10, 12 and 14-18 are rejected and claims 3, 5, 11 and 13 are objected to. No claims are presently allowed.

By this Amendment, claims 3, 5, 11 and 13 have been amended. No claims have been canceled or added. Accordingly, claims 1-18 are presented for further examination. No new matter has been added. By this Amendment, claims 1-18 are believed to be in condition for allowance.

Explanation of Above Amendments

The Specification has been amended to correct an error in grammar and to correct a reference numeral. The Claims identified above as objected to have been rewritten in independent form and are now believed to be in condition for allowance. Replacement Drawings are provided correcting cross-section hatchings and the positioning of a reference numeral.

The Invention

Applicants' invention, as embodied in Claim 1, is drawn to a semiconductor die assembly formed from a plurality of individual die packages. Each package has a plurality of leads having an inner lead portion for electrical bonding to a semiconductor die and an outer lead portion which is down set relative to the inner portion. An encapsulant disposed in a central region of each die package covers the semiconductor die and inner portion of the leads. Such a die package is illustrated in Applicants' Figure 6A.

As shown in Applicants' Figures 7-9, a plurality of die assemblies are stacked. As shown in these Figures and recited in Applicants' Claim 1, at line 16, a portion of the encapsulant extends into the cavity formed by the down set portion of the leads of the immediately above die assembly. Since the encapsulant occupies a cavity that is a portion of the thickness of the immediately above die assembly, the overall thickness of the package is reduced by the overlap area. This is explained in Applicants' Specification at page 8, lines 9-20, and further illustrated with reference to Applicants' Figures 6A and 6B.

It is respectfully solicited that none of the references of record in the present application teach or suggest such a stackable arrangement of die assemblies.

Applicants' Claims 1, 2, 4 and 6-8 were rejected under 35 U.S.C. 102(e) as anticipated by *Lyu, et al.* (U.S. Patent No. 6,849,949). *Lyu, et al.*, for example in Figure 16, illustrate a plurality of stacked die assemblies. However, only the bottommost member of the assembly has down set leads. As such, it is not possible for the encapsulant of one package to extend into a cavity formed by the down set leads of an immediately above package. Rather, the bottom of each package is supported by the top of the encapsulant of the immediately below package. Thus the apparent thickness of each reference die assembly is all three of $A + B + C$, utilizing the designation from Applicants' page 8. There is nothing in *Lyu, et al.* to teach or suggest stackable packages wherein packages above the bottommost package have down set outer leads such that the encapsulant of one package may be inserted into the cavity formed by the down set of an immediately above package assembly. Applicants' Claim 1 and the claims dependent therefrom should be allowed over the *Lyu, et al.* reference.

Applicants' Claim 9 is drawn to a method to assemble a package. Among the method steps is stacking a plurality of individual semiconductor die packages such that at least a portion of the encapsulant is disposed in the cavity of a next higher semiconductor die package as recited in Claim 9, lines 17-19. Claims 9-10, 12 and 14-18 were rejected under 35 U.S.C. 102(e) as anticipated by *Lyu, et al.*

As noted above, there is nothing in the *Lyu, et al.* reference to teach or suggest forming any of the die assemblies, except for the bottommost die assembly, with down set leads to define a cavity. As such, there is nothing in *Lyu, et al.* to teach or suggest the assembly step of stacking the plurality of individual semiconductor die packages such that at least a portion of the encapsulant is disposed in the cavity of the next higher semiconductor die package. Applicant's Claim 9 and the claims dependent therefrom should be allowed over the *Lyu, et al.* reference.

Applicants acknowledge with thanks the Examiner's indication that Claims 3, 5, 11 and 13 are objected to as being dependent on a rejected base claim and that these claims would be allowable if rewritten in independent form to include all the limitations of the base claim and any

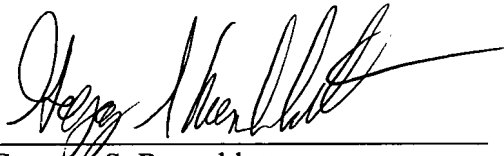
intervening claims. Claims 3, 5, 11 and 13 have been rewritten in an independent form as suggested by the Examiner and are now believed to be in condition for allowance.

Accordingly, Applicant submits that none of the references, alone or in combination, anticipate or make obvious the invention as presently claimed and that the application is now in condition for allowance. Therefore, Applicant respectfully requests reconsideration and further examination of the application and the Examiner is respectfully requested to take such proper actions so that a patent will issue herefrom as soon as possible.

If the Examiner has any questions or believes that a discussion with Applicant's attorney would expedite prosecution, the Examiner is invited and encouraged to contact the undersigned at the telephone number below.

Please apply any credits or charge any deficiencies to our Deposit Account No. 23-1665.

Respectfully submitted,
Frank J. Juskey, et al.



Gregory S. Rosenblatt
Reg. No. 32,489

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CONTACT INFORMATION:

WIGGIN & DANA LLP

One Century Tower

New Haven, CT 06508-1832

Telephone: (203) 498-4566

Facsimile: (203) 782-2889

Email: grosenblatt@wigin.com